New U.S. Patent Application   Filed August 29, 2001
HP No. 30006581
METHOD AND APPARATUS FOR EMBODYING
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Fig. 1A

Fig. 1B

Fig. 1C

Fig. 1D

Fig. 1E

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Fig.2B

Fig. 2A

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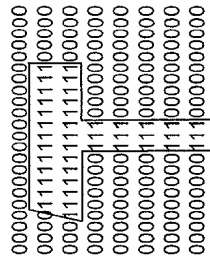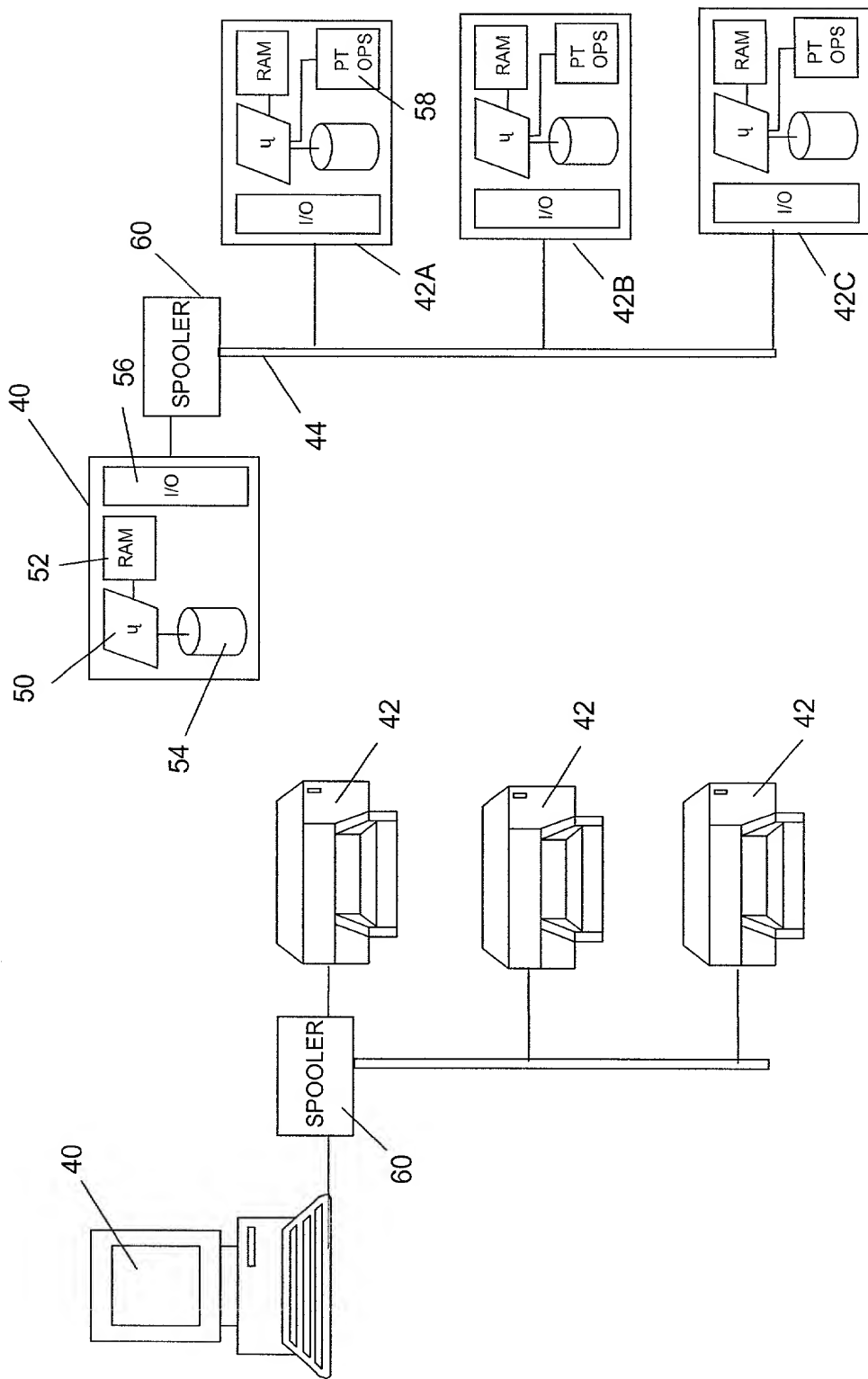DOCUMENTS
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```
/*
   Skeleton rip_nprint, send and status functions, written in a C like
languages,
   all of which rely on POSIX compliant i/o substructure
*/

/*
 Skeleton rip_nprint function

 on completion, returns a pointer to data structure that represents
 the transformed data
*/

/*
   success of ripping operation
*/
enum success {
   done,      /* rip complete */
   fail,         /* rip failed */
   incomplete   /* rip incomplete */
};

/*
   result of ripping operation
*/
struct rip_pcl {
   enum sucess result; /* result of operation */
   rip   *data
};

/*
 rip_nprint
*/
enum success rip_nprint(pcl *raw_data, char *rip_name, char *my_name){
   rip_pcl *completed; /* data once operated on */
   network_id source, destination;
   socket_interface dest_printer;

   setup(completed); /* allocate space for completed data structure */
   source = return_net_id(my_name);
   destination = return_net_id(rip_name);
   dest_printer = open_socket(destination, source);
   if (dest_printer != NULL) {
    if ((transmit(dest_printer, data) != NULL) {
     return (success);
    } else
    {
      return (fail);
    }
   } else
   {
    return(fail);
   }
}
```

Fig. 3

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```
/*
 skeleton send function

 takes name of destination to which data must be transmitted, calls i/o
function
 transmit, and returns a success flag
*/

enum success send_rip(rip *data, char * dest_name, char * my_name) {
  network_id source, destination;
  socket_interface dest_device;

  source = return_net_id(my_name);
  destination = return_net_id(dest_name);
  dest_device = open_socket(destination, source);
  if (dest_printer != NULL) {
   if ((transmit(dest_printer, data) != NULL) {
    return (success);
   } else
   {
     return (fail);
   }
  } else
  {
   return(fail);
  }
}
```

Fig. 4

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```
/*
 job data structure
*/

struct job {
 long_int priority;
 long_int time_to_complete;
 long_int memory_to_complete;
};

/*
   status data structure (minimal), leaving out temp, paper handling,
   error and wear statuis
*/


struct status {
   struct job job_list[max_jobs];
};

/*
   skeleton status function
*/

struct status *get_status(char *rip_name, char *my_name) {
   network_id source, destination;
   socket_interface dest_device;
   struct job *this_job;

   job = allocate_jop_status();
   source = return_net_id(my_name);
   destination = return_net_id(dest_name);
   dest_device = open_socket(destination, source);

   job = call_remote_function(dest_device, status);

   return(job);
}
```

Fig. 5

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```
/*
 Skeleton suspend_n_rip function

 suspends the current RIP job, allocates space for the job, saves it,
 rips new job and then recovers old job
*/


pcl *current_data;    /* pointer to storage space for suspended job */

void suspend_n_rip(pcl *raw_data){
   wait_on_break(current_data); /* waits until  job can be broken
(page/batch boundary) */
   suspend(current_data) /* purges machinbe of data and data specific
settings */
   print(raw_data);        /* rips and prints the new job */
   restore(current_data);/* restore current job */
}
```

Fig. 6

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C/P/PROCESS PJOB 1 PRIORITY X — 702

RECEIVE PJOB2 PRIORITY Z — 704

706

708 — ALLOCATE PJOB 2 TO PRINTER

N

PRINTER BUSY ?

Y

GET STATUS — 710

712 — PRTR(S) W/ STATUS < Z ?

N — HOLD — 714

Y

716 — ID PRTRS W/ STATUS < Z

718 — PTRS CAN DO PJOB2 ?

HOLD — 720

722 — SUSNSAVE SELECTED PTRS

724 — N/W STORAGE FREE ?

DUMP PROCESSED PJ1 DATA — 726

730 — STORE C/P/PROC'D PJOB1 DATA

Fig. 7

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732 — RETURN "PARTIAL ABORT" FLAG

RETURN "TOTAL ABORT" FLAG — 728

ALLOCATE PJOB2 — 734

736 — PROCESS PJOB2

738 — PJOB2 C/P/PROCESS END ?

N

740

HOLD

Y

746 — ABORT FLAG STATUS

PARTIAL

TOTAL

PJOB2 PROC'D DATA TO PRT OPS. — 742

PRINT PJOB2 — 744

752 — RE-ALLOCT. PART PJOB1

754 — C/P/PPROCES PART PJOB1

756 — RETRIEVE PJ1 PROC'D DATA

RE-ALLOCT. PJOB1 — 748

C/P/PROCESS PJOB1 — 750

758 — PJOB1 C/CP/PROC'D DATA TO PRT OPS.

760 — PRINT PJOB1

Fig. 8

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Fig. 9